NOTE XVIII.

ON A COLLECTION OF SHELLS FROM THE MOLUCCAS

BY

M. M. SCHEPMAN.

(Plate 3).

The shells mentioned in this paper, were, for the greater part, collected by Prof. K. Martin on his journey in the East Indian Archipelago, which was undertaken with geological purposes. Another series was brought together by G. W. W. C. Baron van Hoëvell, Resident of Amboyna. This second series contained only a few species, which were, however, represented by a large number of individuals. All these specimens are presented to the Leyden Museum by Messrs. van Hoëvell and Martin. I have included two species from Celebes, though this isle does not belong geographically to the Moluccas. The most interesting part of the collection, consists in the large number of smaller species from a cleft in coral-limestone on Saparoea. From this isle only a few species were known, by the recent publication of Prof. Boettger on the Mollusks collected by Mr. A. Strubell (Bericht Senckenb. naturf. Gesellsch. 1891, pp. 241—318). The list is now considerably enlarged by the discoveries of Prof. Martin.

Only one species, a *Macrochlamys*, is new to science, and of the variety of another, *Helix unguiculastra* var. *pilosa* Mart., the exact locality was still unknown. Moreover I have described a new variety of *Helix zonaria* Linn. As, however, many species are remarkable on account of their variability or their localities, I thought it might be desirable to give the complete list.

1. *Nanina* (*Xesta*) *citrina* Linn.

Martens, Ostas. Landschn. p. 193, pl. 6, figs. 1, 2; pl. 7.

From Leitimor, the southern peninsula of Amboyna, a large number of specimens has been procured by Baron van Hoëvell, all belonging to the typical form, with rounded aperture; many specimens are citron yellow, with one more or less dark brown band at the periphery, bordered by a broad whitish zone and a second narrow one at the sutures; a few specimens are orange yellow with a brown band, others are pale yellow without brown band, a single one is purple-brown with only the white zones; a rather large number belongs to

mutatio *dimidiata* Fav.,

which has the upper part of the shell brown, the under part whitish or yellowish; to this variety likewise belong: a specimen from North Ceram, 2 young specimens from Wahaai, Ceram, and 3 very young ones from Porto, Saparoea; those from Ceram are collected by Martin. A few young specimens from this last locality may be classified as belonging to the type; this is also the case with 2 specimens from Hatoesoea, Ceram, collected by Martin, and with a few from the district Wahaai, near the Toloearang; 3 young or bad specimens may belong to var. *columellaris* Beck. Still should be mentioned a variety of a more or less dark purple brown colour, with whitish zones near the sutures and periphery, some of the specimens with one brown band like the type, which variety resembles the next species in colour, but, according to the rounded aperture and more conical shape, belongs to *N. citrina*; it is figured by Reeve (Conch. Ic. Mon. *Helix*, fig. 482[d]). Martin collected 2 specimens at Porto, Saparoea, and another individual, without brown band, on the same isle, but without noticing the exact locality, while Baron van Hoëvell procured specimens from the kampong Saparoea.

2. *Nanina* (*Xesta*) *Strubelli* Boettger.

Boettger, Bericht Senckenb. naturf. Gesellsch. 1891, p. 253, pl. 3, figs. 2, 2a.

Of this species, which Prof. Boettger has distinguished from the preceding by its depressed shape and square-elliptical aperture, one specimen has been collected by Baron van Hoëvell at Porto, Saparoea, which, after Boettger, belongs to the type, but is very large, having a diam. major of 43 mill. Of two specimens collected by Martin, the one from Hitoe, Amboyna, is quite typical in its measurements, while the other, from Poeloe Poea (near Boeanó), is only a trifle smaller than the first, but more depressed.

3. *Macrochlamys Martini*, n. sp.

(Plate 3, fig. 1).

Testa perforata, subdepressa, sericeo-nitens, lineis spiralibus confertis sculpta, pallide cornea, infra pallidior, ad suturam zona opaca, luteo-albida picta; spira convexa, sutura superficialis; anfractibus 4, *convexiusculi, ultimus depresse-rotundatus, antice haud descendens; apertura paulum obliqua, late lunata; peristoma rectum, acutum; margo columellaris ad insertionem breviter reflexus.*

Diam. maj. $8^1/_2$, min. $7^1/_3$, alt. 5; apert. lat. $4^1/_2$, alt. 4 mill.

This new species is mainly distinguished from the smaller species of *Macrochlamys* from the East-Indian Archipelago, by the impressed spiral lines. *M. consul* Pfr. and *fulvocarnea* Martens are much larger and quite different in colour. From *M.* (*Hyalina*) *amboinensis* Martens, which is the only allied species of the Moluccas recorded by v. Martens, it may be distinguished by its shape, paler colour, smaller perforation, and shallow suture, but above all by the distinct spiral lines.

The specimens were collected with the next species by Prof. Martin, and I have much pleasure in dedicating this species to its discoverer.

4. *Trochomorpha planorbis* Lesson, var. *Lessoni* Martens.

Martens, Ostas. Landschn. p. 249, pl. 13, fig. 4.

From Saparoea, Goenoeng Rila; found by Martin in a cleft in coral-limestone; 3 specimens.

The spiral striae of the underside are only visible with the aid of a very strong lens.

5. *Kaliella milium* Martens.

Helix miliacea Martens, Ostas. Landschn. p. 268, pl. 12, fig. 15.

Of this species, which Prof. v. Martens named *H. milium* in Monatsber. Berl. Acad. 1864, one fine specimen has been found by Martin, together with the preceding species.

6. *Helix* (*Chloritis*) *ungulina* Linn.

Martens, Ostas. Landschn. p. 279. Cat. Mus.

One typical specimen, collected by Martin in the district Wahaai, near the Toloearang, Ceram; from this isle it has also been recorded by v. Martens and Wallace. Its largest diameter is 41 mill.

7. *Helix* (*Chloritis*) *unguiculastra* Martens, var. *pilosa* Martens.

Martens, l. c. p. 282. Cat. Mus.

Of this rare shell, one rather fine specimen has been collected by Martin at Saparoea. By this discovery the exact locality, which remained still doubtful, is now established.

8. *Helix* (*Planispira*) *zonaria* Linn.

Martens, Ostas. Landschn. p. 307, pl. 16, figs. 6—11; pl. 19, fig. 6.

A large number of specimens has been collected by Baron van Hoëvell and a few others by Martin; many of them, especially those from Leitimor, Amboyna, belong to:

var. *lineolata* Martens.

The specimens from the last-named locality agree for the greater part with pl. 16, fig. 6 of v. Martens; other ones are smaller and less marked with the greyish spots, they have the bands 3 and 4, if one of them is lost it is the 3rd; other specimens are quite destitute of bands. One very remarkable specimen is distinctly keeled by a prominent rounded keel near the base and it has a second one near the umbilicus. I am, however, convinced that it is only a monstrosity, perhaps caused by some wound of the soft parts, while in the act of building the shell.

The specimens from Porto, Saparoea, belong to this variety by their colours, though in shape they come near to var. *nitidiuscula* Boettg. Those from the neighbourhood of the kampong Saparoea have the shape of var. *nitidiuscula*, but they are slightly flattened; many of them have the same pattern as var. *lineolata*, but the lustre of var. *nitidiuscula*, some are banded and others without bands, even nearly white; they pass imperceptibly into

var. *nitidiuscula* Boettger.

Boettger, Bericht Senckenb. nat. Gesellsch. 1891, p. 265.

From the kampong Saparoea. A few specimens, one brown or yellowish white, with one or two bands, and one specimen without bands.

Another specimen from Aboro, Haroekoe, is yellowish white, with the bands 3 and 4.

A large number from Porto, Saparoea, also collected by Baron van Hoëvell, shows a great diversity of colours and markings; the chief variations are:

a. more or less dark brown, with the bands 3 and 4 or one of them.

b. under part of shell nearly white, the upper part with obsolete flames; bands 3 and 4 or one of them.

c. like the preceding, but the space between the suture and 3rd band chestnut-brown.

d. nearly white, with band 4 and sometimes with traces of other bands.

e. like the preceding, but only with band 3.

f. like the preceding, with bands 3 and 4.

g. brown or yellowish white, or yellow without bands or with very faint ones.

h. subvar. *albina*; white with a yellowish tint.

All these variations are connected by intermediate links.

Martin has collected at Wahaai, Ceram, a very fine variety, which does not agree with any other, and which I must consider as new. I name it after its discoverer

var. *Martini.*

(Plate 3, fig. 2).

Shell small, much depressed, with a more transverse-oblong aperture, peristome widely expanded, last whorl commonly but slightly deflected. The shell is transparent, horny, with one dark brown peripherical band (n°. 3) often occupying only the second part of the last whorl; above and below the surface is adorned with alternating transparent and opaque white bands; space near the umbilicus uninterruptedly pellucid (one specimen has a broad brown band along the suture and two narrow ones between this and the peripherical one).

diam. maj. 21, min. $15^1/_2$, alt. $7^1/_2$, apert. lat. incl. perist. $[11^1/_2$, alt. 9 mill.

» » 24, » 19, » 10, apert. lat. incl. perist. $[13^1/_2$, alt. $10^1/_2$ mill.

Prof. v. Martens calls the colour of his var. *fasciata*, the only one collected by him at Wahaai, pure white, while this new variety is remarkable by its transparency in fresh specimens. Moreover only one specimen agrees with the measurements. It may have many affinities with var. B. of *Tapparone Canefri* (Ann. del Mus. Civ. di Storia nat. di Genova, 1883, p. 152), but the umbilicus is not larger than in other varieties.

At last should be mentioned another variety from the same locality, which, according to Prof. v. Martens, belongs to his var. *fulminata*, but is smaller; the aperture in the specimens collected by Martin is more rounded than that of any of the preceding varieties, the peristome is brownish; its measurements are:

diam. maj. 21—22, min. 17—18, alt. 9—9½; apert. lat. [10½—11, alt. 10 mill.

9. *Pythia scarabaeus* Linn.

Pfeiffer, Mon. Auric. p. 82.

A few specimens from Aboro, Haroekoe, collected by Baron van Hoëvell, varying in colour and shape, as recorded by nearly every author on this genus. One specimen is yellowish white, with only very few brown spots. Martin collected one specimen on Saparoea and another at Hatoesoea, Ceram; this last specimen has the umbilicus nearly closed.

10. *Pythia semisulcata* A. Adams.

Adams, Proc. Zool. Soc. London, 1850, p. 151.

From this species a few specimens were collected by Baron van Hoëvell along with the preceding *Pythia*; as I could not determine it, I asked the assistance of Prof. Boettger of Franckfort, who identified it as *semisulcata* Ad. The specimens agree with the description of Adams, but the measurements differ considerably from those given by Dr. Pfeiffer (Mon. Auric. p. 93), the largest specimen having a total length of 32 mill., the diam. maj. is 20, diam. min. 15⅓ mill. (in Pfeiffer's Monograph 27: 14: 11). One specimen is nearly white, the other ones vary in colour and in the umbilicus which is more or less large.

Two young specimens from Saparoea, collected by Martin, seem to belong to the same species.

11. *Pythia striata* Reeve.

Pfeiffer, l. c. p. 94. — Boettger, Bericht Senckenb. naturf. Gesellsch. 1891, p. 277.

A large number of specimens is collected by Mr. van Hoëvell at Aboro, Haroekoe. They vary much in colour, in the umbilicus, and also in shape and height of the whorls, consequently of the spire.

12. *Pythia crassidens* Hombr.

Boettger, l. c. p. 275.

It is not without hesitation that I make mention of this species, which has many affinities with *P. striata* and *pantherina* Ad.; the umbilicus is perfectly closed or at least nearly so. In a genus where this character is subject to so much variation, I should suggest, that by more material, these species will prove to pass into each other. It is not difficult to find in a large lot (there are more than 150 specimens of this and the preceding species) specimens which would be considered as the type of a new species, but on comparison every character is variable.

13. *Melania crenulata* Deshayes.

Brot, in Martini-Chemn. 2d. Ed., Mon. *Melania*, p. 114, pl. 14, figs. 9, 9a—9f.

One much eroded specimen seems to belong to var. B of Brot (= *M. Tirouri* Desh.), but is much smaller, being only 42 mill. in length. It has been collected in the Ajer Besar near Waisama, Ceram.

14. *Melania funiculus* Quoy & Gaim.

Brot, l. c. p. 136, pl. 17, figs. 1, 1a, 1b.

Two specimens together with the preceding species.

15. *Melania clavus* Lamarck.

(Plate 3, fig. 3).

Brot, l. c. p. 175, pl. 21, figs. 17, 17a—c.

The only specimen, collected by Martin in the same locality as the preceding species, resembles in shape fig. 17 of Brot, but differs by the ribs, which cover the whole shell, though on the last whorl they become obsolete.

16. *Paludina costata* Quoy & Gaim.

Quoy & Gaim., Voy. de l'Astrolabe, pl. 80, figs. 1—3.

A few specimens, varying much in the number of spiral keels, were collected by Martin in the lake of Tondano, Celebes. The largest specimen has a length of 45 mill.

17. *Stenothyra ventricosa* Quoy & Gaim.

Mousson, Land u. Süssw. Moll. von Java, p. 63, pl. 8, fig. 6.

One specimen without operculum, together with the preceding species.

18. *Leptopoma vitreum* Lesson.

Martens, Ostas. Landschn. p. 143 pro parte.

Large numbers of specimens have been collected by Martin at Wahaai, North Ceram; near Honitetoe, West Ceram; also a small variety at Kajeli, Boeroe; at last a few broken specimens from Saparoea may belong to this species.

Those from Wahaai are generally large, a few specimens have brown zigzag lines, one specimen has moreover two distinct brown bands, which are obsolete in another specimen with broad flames, while a third has only 2 bands; many specimens have slight crenulations on the backside of the peristome, recalling in mind *L. crenilabre* Boettg., which has, however, a much broader peristome, with more and deeper crenulations, and the auricle near the columella is different; a few specimens from Wahaai in another box and probably from a somewhat different locality, are smaller and white, with the exception of one young specimen, which is banded.

The specimens from West Ceram vary in the same manner

as those from Wahaai, a few specimens being brown banded or flamed.

In Boeroe a small variety has been collected with the next species; a comparison of the measurements show the differences; they are in specimens from:

Wahaai: diam. maj. incl. perist. 16, alt. 15 mill.

Kajeli: » » » » $12^2/_3$, » 12 mill.

A still smaller specimen has only a diam. maj. of $11^1/_2$ mill.

The presence of bands in some specimens, which, on account of the deep notch of the columella, belong without doubt to *L. vitreum*, renders this character valueless to distinguish *L. vitreum* from *pellucidum* Grat., as suggested by Dr. von Moellendorff.

19. *Leptopoma intermedium* Martens.

Martens, Ostas. Landschn. p. 144, pl. 4, fig. 4.

Of this species, which has been separated by many authors from the preceding one, a full-grown specimen and a few young ones are brown with the keels whitish.

Locality: Kajeli, Boeroe.

20. *Cyclotus amboinensis* Pfr.

Martens, Ostas. Landschn. p. 121, pl. 2, figs. 4, 5.

A few specimens, most in bad condition, from Saparoea, Goenoeng Rila, in a cleft in coral-limestone, and another from Wahaai, all collected by Martin.

21. *Cyclotus plicosus* Martens.

Martens, Ostas. Landschn. p. 125, pl. 2, figs. 13, 14.

From Saparoea, together with the preceding species.

22. *Cyclotus liratulus* Martens.

Martens, Ostas. Landschn. p. 127, pl. 2, fig. 15.

From the same locality as the preceding species: this one and *C. plicosus* are not in a very good condition and the characteristic sculpture is obsolete.

23. *Omphalotropis ceramensis* Pfr.

Martens, Ostas. Landschn. p. 160, pl. 4, fig. 11.

A few specimens, collected by Martin together with the preceding species. They are smaller than those described by v. Martens, varying from 7 to 9 mill. in length. In every other respect they agree with his description and figure.

24. *Helicina oxytropis* Gray.

Martens, Ostas. Landschn. p. 166, pl. 4, fig. 20.

Many specimens along with the preceding species. They are very small, having only a diameter of 7 mill.

25. *Helicina suturalis* Martens.

Martens, Ostas. Landschn. p. 168, pl. 4, fig. 18.

Along with the preceding species.

26. *Helicina Idae* Pfr.

Martens, Ostas. Landschn. p. 170, pl. 4, fig. 19.

A few specimens along with the two preceding species.

The three species of *Helicina* are new for the Mollusk-fauna of Saparoea.

27. *Neritina (Neritaea) pulligera* Linn.

Martens, in Martini-Chemn. 2d Ed. Mon. *Neritina*, p. 49, pl. 1, figs. 4, 5.

One specimen from the northern coast of Ceram, and another from Hatoesoea, Ceram; both collected by Prof. Martin.

28. *Neritina (Neritaea) iris* Mouss.

Martens, l. c. p. 52, pl. 9, figs. 5, 6.

A few specimens from Hatoesoea, Ceram, collected by Martin; they are nearly all inhabited by hermit-crabs, and in consequence the denticles of the columellar margin are destroyed.

29. *Neritina (Neritodryas) cornea* Linn.

Martens, l. c. p. 140, pl. 12, figs. 14—18.

One specimen, collected along with the preceding species. Prof. v. Martens has not recorded it from Ceram.

30. *Septaria suborbicularis* Sow.

Martens, in Martini-Chemn. 2d ed. Mon. *Navicella*, p. 31, pl. 6, figs. 5—14.

Many specimens from a brook at the southern coast of Leitimor near Ema, Amboyna, collected by Martin; a few belong to the subvariety *furcato-radiata* Martens.

31. *Cyrena coaxans* (Gmel.) Martens.

The distinction of the species in the genus *Cyrena* is so very difficult, that I was obliged to ask the assistance of Prof. v. Martens, who informed me that the present species is identical with that, which is named *C. cyprinoides* Quoy & Gaimard in the Berlin Museum and also in Malak. Blätter, X, 1863, p. 130, and figured by Reeve, Conch. Iconica, Mon. *Cyrena*, pl. 7, fig. 24, under the name of *cyprinoides*, but that on comparison with the original figure in the »Voyage de l'Astrolabe", it is doubtful whether it be the same species, this figure being more angulate behind; that it is, however, without doubt the species described by Rumphius as *Chama lutaria* et *coaxans*, called *Venus coaxans* by Gmelin, and that it should therefore be named *Cyrena coaxans*, though Gmelin has confounded it with *C. ceylonica* Chemn. In consequence the synonymy should be:

Cyrena coaxans (Gmel. sp. pars) Martens.
» *cyprinoides* Martens (olim) non Quoy & Gaimard.
» » Reeve, fig. 24.

One specimen has slight divaricating plicae on the epidermis of the posterior part, calling in mind *C. divaricata*. After comparison of the figure of Reeve, they seem

much less developed and may depend only on individual variation.

Locality: Pasahari, Ceram, collected by Martin.

32. *Cyrena papua* Lesson.

Prof. v. Martens says that the specimens, collected along with the preceding species, better agree with *C. papua* than with any other, and may be also the true *C. cyprinoides* Q. & G. The largest specimen is much larger than the figure of Lesson in Guérin's Magasin de Zoologie, 1832, Moll. pl. 11; a single valve, however, of a young specimen agrees rather well. It agrees perhaps still better with *C. cyprinoides* of Clessin's Monograph in the 2d ed. of Martini-Chemnitz, p. 124, pl. 20, figs. 3 and 4, in the position of the posterior angle. If the suggestion of Prof. v. Martens, that *cyprinoides* and *papua* are the same species, is right, the latter name has the priority.

Rhoon near Rotterdam, December 1892.

CORRECTIONS.

Dr. H. ten Kate informs me as follows about some of the localities mentioned in Note XXVII of the preceding volume:

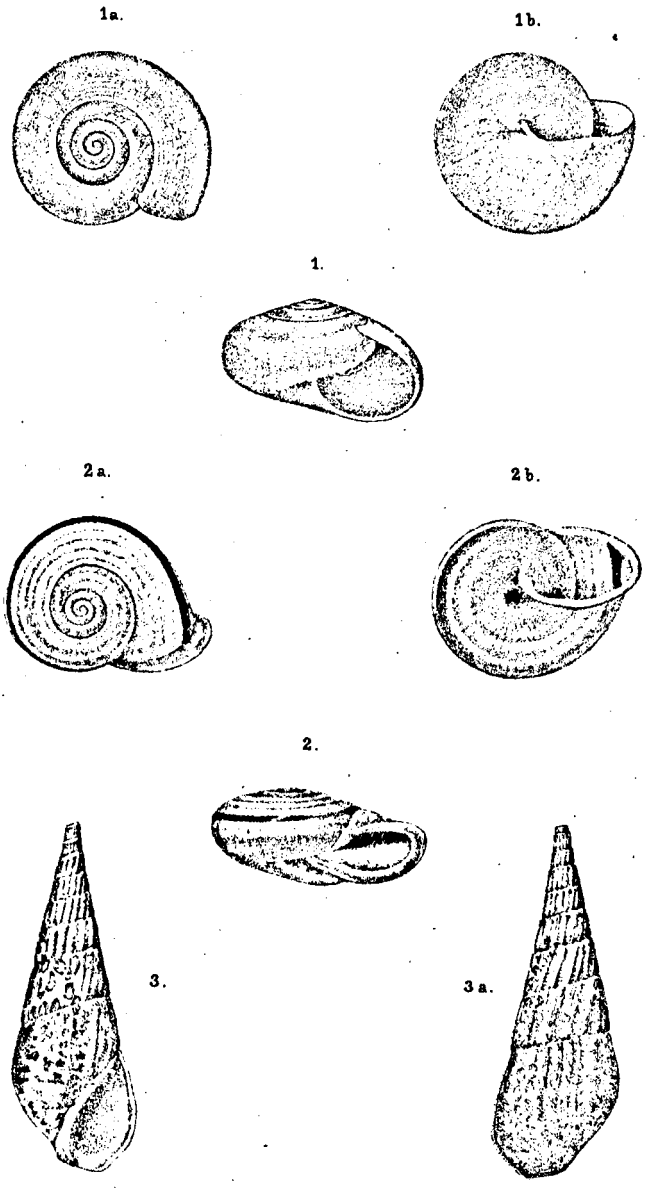
Pensadoe Kopol and 'Ndatas must be Pengadoe Kapal and 'Ndatar.

Lahoeroe » » Lahoeroes.

Amarassi is not situated in central Timor, but on the South western coast.

Soesoek and Ainiba are the names of the lakes themselves and not of kampongs as I suggested in writing: „near Soesoek and Ainiba".

M. M. Schepman.



Dr. H. W. de Graaf del. P. W. M. Trap impr.

1. Macrochlamys Martini *Schepm.* 2. Helix zonaria, var. Martini *Schepm.* 3. Melania clavus *Lam.*